

GLINKOV, M.A., prof., doktor tekhn.nauk, red.; KONDAKOV, V.V., prof.,
doktor tekhn.nauk, red.; KUDRIN, V.A., dotsent, kand.tekhn.
nauk, red.; OYKS, G.N., prof., doktor tekhn.nauk, red.;
YAVOYSKIY, V.I., prof., doktor tekhn.nauk, red.; BORKO, Ye.A.,
red.; GROMOV, N.D., red.izd-va; KARASEV, A.I., tekhn.red.

[New developments in the theory and practice of making open-
hearth steel] Novoe v teorii i praktike proizvodstva marte-
novskoi stali. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po
chernoi i tsvetnoi metallurgii, 1961. 439 p.

(MIRA 14:4)

1. Moscow. Institut stali. 2. Moskovskiy institut stali (for
Glinkov, Kudrin, Oyks, Yavoyakiy).
(Open-hearth process)

ACCESSION NR: APH019820

3/0279/64/000/001/0190/0191

AUTHOR: Borko, Ye. A.

TITLE: Scientific-technical session of the Moscow Red Banner labor order Steel and Alloys Institute

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 1, 1964, 190-191

TOPIC TAGS: steel, ferrous metal, nonferrous metal, alloy

ABSTRACT: The session on "Cokeless Metallurgy" took place in October 1963. Over 1000 scientists, engineers, and educators participated in discussing the reports on the subjects of: the technology and automation of ferrous metals production; the theory of furnaces; the pressure-forming of metals; the technology of casting; the heat treatment of steel and alloys; the physics of metals; the physicochemical foundations of metallurgical processes; corrosion and its prevention in metals; the beneficiation of rare and radioactive metal ores; the metallurgy of nonferrous, rare, and radioactive metals; the production of pure metals and semiconductor materials; the cost reduction achieved in cast iron production by blowing natural gas into the blast furnace; organic solvents and ion exchange techniques used

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ACCESSION NR: AP4019820

advantageously in extracting radioactive and rare metals; the investigations of the surface properties of nonferrous melts, clarifying their structural features, and leading to a lowering of losses in tailing slags; the continuous process of selective oxidation and calcination of boiling ferromnickel, for processing oxidized nickel ores; the mechanism of mass-exchange and of heat exchange in a torch. Especially important for industry were the studies on the physicochemical conditions required for the production of powdered refractory metals and of their carbides, nitrides, and hydroxides from the metal oxides, and also the studies on obtaining of molybdenum concentrates by means of calcination in a boiling layer (a process never before perfected in the USSR). Of scientific and practical interest were the reports on methods for obtaining highly pure cadmium, zinc, mercury, selenium, aluminum and other metals, and for growing of ionic single crystals and of single crystals of pure metals. Studies of crystalline semiconductor material structure and of crystal defects were also discussed.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 31Mar64

ENCL: 00

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BORKO, Ye.A.

Scientific Technological Meeting of the Moscow Institute of steel
and alloys decorated with the Order of the Red Banner of Labor.
Izv. AN SSSR. Met. i gor. delo no.1:190-191 Ja-F '64.

(MIRA 17:4)

YAVOYSKIY, V.I., *otv. red.*; BIGEYEV, A.M., *red.*; BORKO, Ye.A., *red.*; OLINKOV, M.A., *red.*; ZARVIN, Ye.Ya., *red.*; KAPUSTIN, Ye.A., *red.*; KOGHO, V.S., *red.*; KUDRIN, V.A., *red.*; LAPITSKIY, V.I., *red.*; LEVIN, S.L., *red.*; OYKS, G.N., *red.*; ROMENETS, V.A., *red.*; UMRIKHIN, P.V., *red.*; FILIPPOV, S.I., *red.*

[Theory and practice of the intensification of processes in converters and open-hearth furnaces; transactions]
Teoriya i praktika intensifikatsii protsessov v konferte-
rakh i martenovskikh pechakh; trudy. Moskva, Metallurgiya,
1965. 552p. (MIRA 18:10)

1. Meshvuzovskoye nauchnoye soveshchaniye po teorii i
praktike intensifikatsii protsessov v konverterakh i mar-
tenovskikh pechakh. 2. Moskovskiy institut stali i splavov
(for Filippov). 3. Zhdanovskiy metallurgicheskiy institut
(for Kapustin). 4. Ural'skiy politekhnicheskiy institut
(for Umrikhin).

FEDOROV, L.; BORKO, Yu.

Strikes are spreading across continents. Sov. profsojuzny 19
no.1:24-25 Ja '63. (MIRA 16:1)

(Strikes and lockouts)

BORKO, Yu.

Class battles are shaking the world of capital. Komm.
Vooruzh. Sil 4 no.1:76-81 Ja '64. (MIRA 17:9)

BORKOSKI, B.

POLAND/Chemical Technology. Chemical Products. Water Treatment. H-5
Sewage

Abs Jour : Ref Zhur - Khimiya, 1958, No 22, 744³⁴

Author : Borkoski B.

Inst : Not Given

Title : Possible Improvements of a Treating Process Applicable to
Phenol-Containing Effluent Sewer Water, By Means of Extrac-
tion with Benzene, Followed by Subsequent Removal of
Phenols with Caustic.

Orig Pub : Gas, voda, i techn. snit., 1958, 32, No 3, 102-106

Abstract : No abstract

Card : 1/1

BORKOV, A.S.

~~SECRET~~
Mechanized charging of cathode zinc to induction furnace. Biul.
tekh.-ekon. inform. Gos. nauch.-issl. inst. nauch. i tekh. inform.
17 no.6:9-10 Je '64. (MIRA 17:11)

BORKOV, D.A., dotsent. Kuibyshev, Meditsinskii institut, klinika
obshchei khirurgii.

Plastic surgery of the nose with doubled skin. Vest.khir.
75 no.5:120-121 Je '55. (MLRA 8:10)

1. Iz kliniki obshchey khirurgii (zav.prof. S.P.Shilovtsev)
Kuibyshevskogo meditsinskogo instituta.

(NOSE, surgery,
plastic repair with free skin)
(SKIN TRANSPLANTATION, in various diseases,
nose dis., plastic repair with free skin)

Country : USSR
Category: Soil Science. Mineral Fertilizers.

J

Abs Jour: RZhBiol., No 18, 1958, No 82133

Author : Borkov, G.A.

Inst : ~~USSR Academy of Sciences~~

Title : Current Problems of Agricultural-Chemical Investigations
in the Light of Daily Requirements of the Agriculture.

Orig Pub: Udobroniye i urozhay, 1958, No 3, 3-13

Abstract: No abstract.

Card : 1/1

BORKOV, G.A.

For further development of international cooperation. Zashch.rast.
ot vred. i bol. 3 no.6:3-4 M-D ' 58. (MIRA 11:12)

1. Zamestitel' ministra sel'skogo khozyaystva SSSR.
(Plants, Protection of)

LOBANOV, P.P.; BREZHNEV, D.D.; LYSENKO, T.D.; BORKOV, G.A.; OL'SHANSKIY, M.A.;
SINYAGIN, I.I.; ALEKSASHIN, V.A.; AVDONIN, N.S.; BEREZOVA, Ye.F.
SOKOLOV, N.S.; SOTNIKOV, V.P.; SMIRNOV, N.D.; KEDROV-ZIKHMAN, O.K.

Ivan Il'ich Samoilov; obituary. Dokl.Akad.sel'khoz. 23 no.11:
48 '58. (MIRA 11:12)

(Samoilov, Ivan Il'ich, 1900-1958)

BORKOV, N.

Agriculture & Plant & Animal Industry

Experience of livestock breeders of Kostroma Province, Kostromskoe obl. gos. izd-vo, 1951.

9. Monthly List of Russian Accessions, Library of Congress, March 195~~6~~². Unclassified.

YEVSTYUKHIN, A.I.; LEONT'YEV, G.A.; BORKOV, N.V.

Design and performance of MIFI-9-2 high temperature furnaces
with graphite heaters for melting and casting in the vacuum of
pure metals and alloys. Met.i metalloved.chist.met. no.1:122-127
'59. (MIRA 12:10)
(Vacuum metallurgy—Equipment and supplies)

BORKOV, N.V.

Laboratory equipment for the preparation of zirconium alloys
with small quantities of nitrogen and oxygen. Met. 1
metalized, chist. met. no. 2:148-158 '60. (MIRA 13:12)

(Zirconium alloys--Metallurgy)

(Metallurgical laboratories--Equipment and supplies)

S/755/61/000/003/006/027

AUTHOR: Borkov, N.V.

TITLE: Effect of hydrogen on some properties of zirconium.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov. no.3. 1961, 46-63.

TEXT: The paper discusses existing literature on the effects of H on the neutron-moderator properties of Zr and on the technological, corrosional, and mechanical properties of Zr as a structural material for nuclear reactors. In the first instance, H is an effective moderator, while both H and Zr have a small capture cross-section; in ZrH_2 , the H-atom concentration per unit volume exceeds that of H_2O or liquid H (cf. Libowitz, G., J. Nucl. Mat., v.2, no.1, 1960). The $Zr-H$ phase diagram. The Zr-H phase diagram has not yet been established with any degree of dependability comparable to that of the Zr-O diagram. A compromise diagram is drawn in consonance with Edwards, R., et al. (J. Am. Chem. Soc., v.77, no. 5, 1955) and others. H lowers the $\alpha-\beta$ transformation T (by $300^\circ C$). The location of the two-phase ($\alpha+\beta$) region and the single-phase β region, also that of the eutectic point (cf. Vaughan, D., et al., J. Metals, v.8, no. 5, 1956) remains debatable. Western literature data are also adduced relative to the boundaries between the

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Effect of hydrogen on some properties of zirconium. S/755/61/000/003/006/027

β and the ($\beta + \delta$) regions, the latter and the δ region, the δ and the ($\alpha + \delta$) region, and the low-temperature portion of the ($\delta + \epsilon$) region. Crystalline structure: The literature survey reduces essentially to a review of Libowitz's summation (loc. cit.) of the state of the art. The nature of the Zr hydrides. Libowitz (loc. cit.) and Galaktionova, N. A. (Vodorod v metallakh. Moscow. Metallurgizdat. 1959) review the two hypotheses according to which the Zr hydrides constitute solid solutions of the injection-phase type or, alternately, constitute true chemical compounds in which case any deviation of the hydrides from stoichiometry are interpreted by lattice defects, H vacancies, or metallic-atoms injections, since the hydrides always exhibit a H deficit. V. I. Mikheyev (Gidridy perekhodnykh metallov. Moscow. Izd-vo AN SSSR, 1960) refers these hydrides to the so-called "Bertholletide" phases, lacking singular points; according to him the noninteger H contents indicate the existence of solutions of several chemical compounds, each of which, taken per se, satisfies the law of integer and fractional ratios. Libowitz (loc. cit.) speaks of an ionic character of the coupling in the hydrides of transition metals, which may explain the brittleness of the respective compounds. Paths of the penetration of H into Zr. H is extremely mobile and its content in the metal is subject to quasi-spontaneous changes (Galaktionova, loc. cit.; Miller, G. L. Zirconium, Russian translation, 1955). Zr can occlude H from any H-containing compound. Ab, E. A., et al. (ZhTF, v.29, no.9, 1959) indicates that Zr powder is so energetic an absorber

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Effect of hydrogen on some properties of zirconium.

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of H, that it may serve as a getter. Gulbransen, E., and Andrew, K., have shown that the amount and character of the oxide skin on Zr controls the intensity of the H occlusion. Effect of H on the mechanical properties of Zr. General consensus: H embrittles Zr as well as all other metals. Aside from references to well-known Western literature, communications by Galaktionova (loc. cit.) and Bruk, B. I., and Nikolayev, G. I., (Akad. nauk. SSSR, Dokl., v.116, no.1, 1957) are cited. Existing literature on the effect of H on the strength characteristics of Zr (other than H embrittlement) is scant, that on flake formation nonexistent. Effect of H on the corrosion resistance of Zr in a water-vapor medium. Several authors, including Ambartsumyan, V. S., et al. (in The Second Internat'l Conf. on the Peaceful Uses of Atomic Energy, Geneva, 1958), divide the reaction of pure Zr with water at high T kinetically into two stages, one in which the reaction products form a thin and firmly adhering layer of iridescent or black color, the other in which more rapidly developing corrosion forms a whitish layer of corrosion products (ZrO_2) that does not adhere firmly to the metal. The high-T corrosion phenomena discussed by Korobkov, I. I., et al. (in the reference last cited) are briefly reviewed, including the "break" concept on the corrosion-time curve. Ambartsumyan's views (loc. cit.) on the effect of H content on the corrosion resistance of Zr and its alloys following the tests, also on the effectiveness of protective surface films obtained in O and in water at 450-600°C, are cited. The microstructural differences between hydride

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formations in relatively corrosion-resistant Zr alloys (with H contents of the order of 10^{-3} %) and corrosion-prone Zr alloys (with H contents of the order of 10^{-2} %) are briefly discussed and pictured. On the mechanism of Zr corrosion in hot water. None of the existing theories succeeds in reflecting all of the phenomena involved fully. Within the framework of a review of well-known Western literature, the 3-stage description by Schwartz, C., Mallett, M. (Trans. ASM, v.46, 1954) is briefly summarized, with the comment that they overlook the diffusional aspect of the problem. Much additional investigatory work is needed. The radiational stability of Zr alloys with H. The only views summarized are those of Martin, Dykstra, Carpenter, Hatcher and Lagrange (in Second Internat'l Conf. on the Peaceful Uses of Atomic Energy, Geneva, 1958). There are 9 figures, 2 tables, and 21 references (9 Russian-language Soviet, 5 Russian-language translations of English-language originals, and 7 English-language U.S.).

ASSOCIATION: MIFI (Moscow Engineering Physics Institute).

Card 4/4

ACCESSION NR: AT4005957

S/2755/63/000/004/0018/0033

AUTHOR: Yemel'yanov, V. S.; Borkov, N. V.

TITLE: Effect of hydrogen and nitrogen on corrosion resistance of zirconium in water and steam

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov, no. 4, 1963, 18-33

TOPIC TAGS: zirconium corrosion, hydrogen effect

ABSTRACT: The effect of H₂ and N₂ on corrosion resistance of high purity Zr sheets (1 mm thick) was investigated. Absorption of H₂ was studied in a laboratory device, using specific amounts of H₂ at various temperatures under a high vacuum. The amount of H₂ required for absorption was calculated by means of the Mendeleev-Klaueyron equation, and the amount of H₂ absorbed was determined by a gravimetric method. At a temperature of 700C, a uniform distribution of H₂ in a cross section of the specimen was reached in 30-40 minutes. Corrosion tests of specimens exposed to H₂ were carried out in two series in a stainless steel autoclave at 350C and 170 atm. In the first series of experiments, specimens containing 0.001, 0.01, and

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ACCESSION NR: AT4005957

0.015% H_2 were exposed to distilled water for up to 950 hours; the hydrogen absorption was tested after 100, 200, 440, 670 and 950 hours. In the second series of experiments, specimens containing 0.005, 0.01, 0.02 and 0.025% were exposed to distilled water in sealed ampules of stainless steel and tested at 2500°C. The kinetics of the corrosion process were determined from the increasing weight of the specimens. It was found that an increase in the H_2 content in a Zr specimen decreased its corrosion resistance in steam. The effect of N_2 on Zr-corrosion resistance was tested on 30 x 10 x 1 mm specimens. Absorption of N_2 was studied by the N.V. Borkov method, in the range of 0.006-0.055% of absorbed N_2 . Corrosion tests were carried out in stainless steel autoclaves at 300 C, 88 atm. pressure; 350 C, 170 atm. pressure; and 400 C, 280 atm. pressure. The kinetics of the corrosion process were studied by weighing the specimens after stated time intervals. After the specimens were removed from the autoclave, a loose layer of oxide was found on the surface. It was concluded that the corrosion resistance of Zr in water and steam is more markedly decreased by N_2 than by H_2 . Orig. art. has: 1 formula, 9 figures and 9 tables.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Engineering Physics Institute)

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ACCESSION NR: AT4005957

SUBMITTED: 00

DATE ACQ: 17Jan64

ENCL: 00

SUB CODE: MM,IC

NO REF SOV: 004

OTHER: 003

Card

3/3

30

Obtaining rubber from the roots of *koh-naghyz*. P. K. Borokov. *Caoutchouc and Rubber* (U. S. S. R.) 1939, No. 8, 67-70; *Chimie & industrie* 43, 67R.—The process comprises 5 principal steps: (1) obtaining the latex; (2) sepn. of glucides (inulin, etc.) by diffusion and their conversion into alc.; (3) prepn. of the residual pulp for the extn. of rubber by treating with 2% alkali liquor, which degrades hemicellulose, pectin, proteins and partially cellulose and lignin; (4) sepn. of the rubber by centrifuging; (5) drying. The rubber thus obtained contains 84.5% hydrocarbons, 4.3% insol. residue, 11.2% resins and 1-1.2% ash.

A. Papineau-Couture

✓ 4931. Identification of ebonites A. J. ...

Mineral and ...

1957. No. 1. 15 22. This investigation ...
hard rubber based on SRG-21 ...
rubber based hard rubbers were included in
comparison. SSSD21MD23 660712

Am. orb.

AUTHORS: Kuz'minskiy, A. S., ~~Berkova, L. V.~~ SOV/76-32-9-16/46

TITLE: The Vulcanization and Mechanical Properties of Ebonites
(Vulkanizatsiya i mekhanicheskiye svoystva ebonitov)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 9,
pp 2051 - 2060 (USSR)

ABSTRACT: The authors investigated ebonite, which was prepared from divinyl styrene caoutchouc SKS 30. The vulcanization was carried out at different temperatures (150°, 170°, and 190° C) using different amounts of sulfur. The mechanical properties of the ebonite were measured in the air and at 130°C using a Polyani type dynamometer. All the experimental results are reproduced in the form of graphs. In the vulcanization process two opposed tendencies, the formation and destruction of sulfur cross connections, come into play. In the early stages of vulcanization polysulfide bonds form. Under optimal vulcanization conditions only the mono- and disulfides remain. By the formation of a thick, three-dimensional net the strength of the reciprocal intermolecular effect grows until the material goes over into the glassy state.

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The Vulcanization and Mechanical Properties of Ebonites SOV/76-32-9-16/46

At 150° to 170°C the ebonite begins to flow, since the sulfur bonds break. This flow is a specific property of sulfur ebonite. At 150-170°C thermoebonite, rubber, and caoutchoucine show intensive three-dimensional connections. Sulfur ebonites do not show this behavior as a result of the inhibiting effect of the sulfur, which is produced by a rupture of the sulfur bond. There are 12 figures and 19 references, 14 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti, Moskva (Moscow Scientific Research Institute of the Rubber Industry)

SUBMITTED: August 16, 1956

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BORKOVA, L. V., Candidate Chem Sci (diss) -- "A study of the vulcanization of ebonite". Moscow, 1959. 6 pp (Moscow Inst of Fine Chem Tech im M. V. Lomonosov), 150 copies (KL, No 25, 1959, 128)

KUZ'MINSKIY, A.S., doktor khim.nauk: BORKOVA, L.V.

Evolution of hydrogen sulfide during the vulcanization of
ebonite. Trudy NIIRP no. 7:67-73 '60. (MIRA 14:1)
(Rubber) (Hydrogen sulfide)

BORKOVEC, J.

Preparation of 1,4-diamino-2-butanone. J. Michálek,
J. Borkovec, and H. Hudlický (Masarykova Univ., Brno,
Czech. J. Chem. Phys. 47, 1230-41 (1953)). $\text{H}_2\text{NCH}_2\text{CO}-$
 $\text{CH}_2\text{CH}_2\text{NH}_2$ (I) was prepd. by the following series of reac-
tions: $\text{C}_6\text{H}_5(\text{CO})\text{NCH}_2\text{COCl}$ and CH_3N_3 gave 95% $\text{o}-$
 $\text{C}_6\text{H}_4(\text{CO})\text{NCH}_2\text{COCHN}_3$, m. 167-8° (decompn.) (from
 Et_2O or dioxane), which was transformed in 68% yield to $\text{o}-$
 $\text{C}_6\text{H}_4(\text{CO})\text{NCH}_2\text{CH}_2\text{CO}_2\text{Me}$, m. 71-2° (from Et_2O). This
was hydrolyzed by heating 20 min. at 80° with aq. HBr
(d. 1.38) to 84% $\text{o}-\text{C}_6\text{H}_4(\text{CO})\text{NCH}_2\text{CH}_2\text{CO}_2\text{H}$, m. 148-9°
(from C_6H_5), which treated with SOCl_2 and then with
 CH_3N_3 yielded 78% $\text{o}-\text{C}_6\text{H}_4(\text{CO})\text{NCH}_2\text{CH}_2\text{COCHN}_3$ (II),
m. 122° (from Et_2O). Treatment of II with HCl in Et_2O
gave 88.7% yield of $\text{o}-\text{C}_6\text{H}_4(\text{CO})\text{NCH}_2\text{CH}_2\text{COCH}_2\text{Cl}$; this
heated with $\text{o}-\text{C}_6\text{H}_4(\text{CO})\text{NHK}$ 6 hrs. on the steam bath
yielded 52% of 1,4-diphenylamido-2-butanone, m. 248-9°,
which refluxed 36 hrs. with 37% HCl in AcOH (1:1) gave
78% I, m. 220-1° (decompn.). M. Hudlický.

BORKOVEC, JOSEF

CZECH

Amidocarbonylquinoxalines. 1. Josef Borkovec, Jitř Michal-
sky, Emil Kabešic, and Jaromír Haubert (Masarykova
Univ., Brno, Czech.). *Chem. Listy* 48, 717-21 (1954). — C
2-Aminoalkylquinoxalines have been prepd. from α -C₆H₄-
(CO)₂NCHRCOCHN₂ (I). 1 (R = H, Ia) (0.4 g.) in 50
ml. Et₂O satd. with dry HCl gave 0.35 g. (84%) α -C₆H₄-
(CO)₂NCHRCOCH₂Cl (II) (R = H, IIa), m. 139-40°
(from MeOH). Better yield (88%) was obtained by adding
37% aq. HCl to Ia in AcOH. IIa (1 g.) was dissolved in
10 ml. dry C₆H₆N, the soln. heated 15 min. on the steam-
bath, the HCl salt sepd., washed with C₆H₆ to yield 1.4 g.
(92%) α -C₆H₄-(CO)₂NCHRCOCH₂NC₆H₅ (III) (R = H,
IIIa), m. 133-40° (from EtOH) (1 mol. of EtOH of crystn.),
and m. 195-202°. Treating a mixt. of 10 g. IIIa in 70 ml.
EtOH with 4.7 g. *p*-ONC₆H₄NMe₂ in 60 ml. EtOH, and
at -10° with an alc. soln. of 1.4 g. KOH, allowing to
stand 2 hrs., dilg. with 200 ml. H₂O, sepg. the crystals,
washing them with H₂O and dil. EtOH, and crystg. the
compd. from C₆H₅-EtOH 5:2 yielded 9.2 g. (98%) α -C₆H₄-
(CO)₂NCHRCOCH₂N(O)C₆H₄NMe₂ (IV) (R = H, IVa), m.
202-4°. Suspending 1.5 g. nitrone IVa in Et₂O, shaking
the suspension with 20 ml. 15% HCl until IVa dissolved,
sepg. the ether layer, repeating the extn. with 5 40-ml.

portions of Et_2O , washing the ether ext. with dil. HCl , with H_2O , drying with CaCl_2 and evap. *in vacuo* gave 0.6 g. of a non-cryst. residue which was transformed, by adding 250 mg. $\alpha\text{-Cl}_2\text{N}(\text{H})_2$ in 10 ml. EtOH , to 740 mg. (60%) 2-phthalimidethylethylhydrazine (V), m. $227-8^\circ$ (from EtOH). Heating a mixt. of 0.5 g. V in 30 ml. EtOH with 0.2 g. 100% $\text{N}_2\text{H}_4 \cdot \text{H}_2\text{O}$ in 20 ml. EtOH on the steam bath 2 hrs., removing the sepd. crystals, evapng. the soln. *in vacuo*, dissolving the residue with AcOH , adding the sepd. crystals to the soln., shaking the soln. with 10 ml. 30% KOH , extg. the aq. layer with 20 ml. AcOEt , washing the ext. with H_2O , drying, and treating 15 min. with dry HCl gave 0.24 g. (71%) of the HCl salt of VI, m. $205-7^\circ$ (decomp.). $(\pm)\text{-}\alpha\text{-C}_6\text{H}_4\text{CO}(\text{O})\text{NCH}_2\text{MeCO}(\text{H})$ (II) (10 g.) treated with SOCl_2 1 hr. at $60-70^\circ$ gave the chloride, which, dissolved in 40 ml. CH_2Cl_2 and treated at -10° with a CH_3Mg soln. (prepd. from 14 g. $\text{NiCl}_2 \cdot \text{CONMeNO}$), yielded 8.6 g. (76%) I ($R =$

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Josef Borkovec
 Me), m. 109-10° (from Et₂O). The following derivs. were
 prepd. in the same manner as their lower homologs: II
 (R = Me) (80%), m. 120-1° (from MeOH); III (R =
 Me) (83%), m. 123-5° (with 1 mol. EtOH); IV (R =
 Me) (51%), m. 158-60°; V (R = Me) (66%), m. 124-
 5° (from Et₂O, EtOH); and VI (R = Me) (70%), m. 191-0°
 (from EtOH-Et₂O). II. Josef Borkovec, Jiri Michalský,
 and Miroslav Ambroz. *Ibid.* 805-8. By the method pre-
 viously described, 2-(β -phthalimidoethyl)quinoxaline (I) and
 2-(β -phthalimidopropyl)quinoxaline (II) were synthesized.
 o-C₆H₄(CO)NCHMeCOCHN₂ (10 g.) dissolved in 200 ml.
 MeOH and heated at 80-70° was treated with MeOH sus-
 pension of Ag₂O prepd. from 2 g. AgNO₃, the mixt. boiled
 shortly with C, filtered, the filtrate evapd. *in vacuo*, the
 residue dissolved in Et₂O, the soln. washed with H₂O,
 dried and evapd. to give 6 g. (54.3%) o-C₆H₄(CO)NCH-
 MeCH₂CO₂Me (III), m. 62-3°. The same product was
 obtained by esterification of the free acid (IV) (m. 121-2°)
 with CH₃N₂. Heating 6 g. III 3 hrs. at 60-5° with 40 ml.
 HBr (d. 1.38), filtering the soln., and dilg. the filtrate with

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(over)

60 ml. H₂O pptd. 2.5 g. (44.2%) α -C₁₁H₁₇(CO)₂NCHMeCH₂CO₂H (IV), m. 103-6° (hydrate), 131-22° (anhyd.). Dissolving 2 g. IV in 3 ml. SOCl₂, heating the soln. 20 min. at 60°, removing excess SOCl₂ *in vacuo*, dissolving the product in C₆H₆ (5 ml.), cooling the soln., adding it to the ether soln. of CH₃N₃ (from 4.6 g. NH₄CONMeNO), and allowing the mixt. to stand 12 hrs. at 0° yielded 1.9 g. (90.4%) α -C₁₁H₁₇(CO)₂NCHMeCH₂COCHN₃ (V), m. 115° (from MeOH-Et₂O). Adding HBr (d. 1.38) to the suspension of 5 g. V in 15 ml. AcOH, dilg. the soln. with H₂O, filtering the product, washing it with ice water, and crystg. from abs. EtOH yielded 5.2 g. (88.1%) α -C₁₁H₁₇(CO)₂NCHMeCH₂COCH₂Br (VI), m. 108°. α -C₁₁H₁₇(CO)₂NCH₂CH₂COCH₂Cl (3.05 g.) (C. 1. 49, 844) dissolved in 3 ml. C₆H₆N₃, heated 10 min. at 55-60°, gave 2.55 g. (88%) α -C₁₁H₁₇(CO)₂NCH₂CH₂COCH₂NC₃ Cl (VII), m. 225-8° (from EtOH-Et₂O mixt.). Mixing the soln. of 1.5 g. VII in 30 ml. EtOH with a soln. of 0.63 g. α -ONC₃H₇NMe₂ in 40 ml. EtOH, and treating the mixt. with 0.18 g. aq. alc. NaOH at -10° gave 1.2 g. (72%) of a nitron. α -C₁₁H₁₇(CO)₂NCH₂CH₂COCH₂N(O)C₃H₇NMe₂ (VIII), yellow needles, m. 162-3° (from EtOH-C₆H₆). Treating 2.5 g. VIII dissolved in 50 ml. Et₂O with 50 ml. 2 N HCl, extg. the aq. layer with 30-ml. portions Et₂O, washing the ext. with dil. HCl, with H₂O, with 1N Na₂CO₃, drying and evapg. the ext. *in vacuo*, dissolving the oily residue in 20 ml. EtOH, and heating the soln. 30 min. on the steam bath with an equiv. amt. of α -C₁₁H₁₇(NH₂) yielded 0.8 g. (38%) I, m. 150°. VI (1 g.) treated with C₆H₆N₃ gave 1.1 g. (88%) α -C₁₁H₁₇(CO)₂NCH₂MeCH₂COCH₂NC₃H₇Br (IX), m. 235-7°. IX (0.94 g.) yielded 0.7 g. (77%) nitron. α -C₁₁H₁₇(CO)₂NCHMeCH₂COCH₂N(O)C₃H₇NMe₂, m. 147°, which was transformed to II, m. 137° (from EtOH) in a 44.9% yield. M. Hudlický

BONČOVEC, J.; NIČHALSKY, J.; AMBRUZ, M.

"Amincalkylquinoxalines. II.", P. 865, (CHEMICKÉ LISTY, Vol. 48, No. 6, June 1954, Praha, Czech.)

SC: Monthly List of East European Accessions (EFAI), LC, Vol. 4, No. 3, March 1955, Uncl.

BORKOVEC, J.

7

C Z E C H

Preparation of 4,4'-bis(β -aminoethyl)-2,2'-dithiazolyl. J. Michalický and J. Borkovec (Masarykova Univ., Brno, Czech.). *Chem. Listy* 48, 1240-1 (1954); cf. C.A. 49, 11044. 844f. α -C₆H₄(CO)₂NCH₂CH₂COCH₃ (10 g.) suspended in 30 ml. AcOH and treated with 40% HBr gave 11.5 g. (94.5%) α -C₆H₄(CO)₂NCH₂CH₂COCH₂Br (I), m. 120°. Treating 1 g. I in 10 ml. abs. EtOH with 0.2 g. (CSN₂)₂, refluxing the soln. 40 min. on the steam bath, and filtering the crystals after cooling gave 0.55 g. (63%) 4,4'-bis(β -phthalimidoeethyl)-2,2'-bithiazolyl (II), m. 256-7° (from EtOH-C₆H₆). Refluxing 0.5 g. II in 30 ml. AcOH with 20 ml. 37% HCl 7 hrs., and after addn. of 10 ml. HCl 8 more hrs., evap. the soln. in vacuo, filtering off the α -C₆H₄(CO₂H)₂, dilg. the filtrate with 5 ml. H₂O, decolorizing the soln. with C, and pptg. the product with 20 ml. EtOH-Et₂O 1:3 gave 0.25 g. (78.6%) 4,4'-bis(β -aminoethyl)-2,2'-bithiazolyl-2HCl, decomp. above 300° without melting; dipicrate, m. 278-80° (decompn.). M. Hudlický.

A. J. G. W.

BORKOVEC, J.

CZECH

✓ Some additional 4,4'-bis(aminoalkyl)-2,2'-bithiazoles.
I. Michalský and J. Borkovec (Masarykova Univ., Brno,
Czech.). *Chem. Zvesti* 18:1872-3 (1964); *Ch. C.A.* 49,
0027g. Condensation of α -C₆H₄(CO)₂NCHMeCOCH₂Br (I)
and α -C₆H₄(CO)₂NCHMeCH₂COCH₂Br (II) with (CSNH₂)₂
gave the corresponding 4,4'-bis(1,2-phthalimidoethyl)-2,2'-
bithiazole (III), and 4,4'-bis(2-phthalimidopropyl)-2,2'-bi-
thiazole (IV), hydrolyzed to the di-HCl salts of 4,4'-bis(1-
aminoethyl)-2,2'-bithiazole (V) and 4,4'-bis(2-aminopropyl)-
2,2'-bithiazole (VI). Treating 4.5 g. α -C₆H₄(CO)₂NCHMe-
COCH₂Br in 15 ml. AcOH with 40% HBr to decoloration,
and dilg. the soln. with 500 ml. ice water gave 4.6 g. I, m.
107° (from EtOH). Heating 2 g. I with 200 ml. EtOH and
400 mg. (CSNH₂)₂ 30 min. at 100° gave 1 g. III, m. 302-3°
(from C₆H₆). Refluxing 400 mg. III in 300 ml. AcOH and 20
ml. concd. HCl 8 hrs., adding 20 ml. AcOH and 50 ml. HCl,
refluxing the mixt. 16 hrs., evapg. *in vacuo*, removing the
phthalic acid, evapg. the soln. to dryness, dissolving the
residue in EtOH, and pptg. with Et₂O gave 170 mg. V,
decomp. without melting above 320° (from EtOH-Et₂O);
prep. IV (60%), m. 238-9° (from EtOH), and VI (63%),
decomp. without melting above 295° [dipicrate, m. 286-8°
(decompn.) (from H₂O)]. M. Hudlický

MA BI

MICHALSKY, Jiri; KISA, Engelbert; BORKOVEC, Josef

Synthesis of histamine from acrylonitrile; 1,4-diamino-2-butanone. Cesk. farm. 4 no.9:457-458 Nov 55.

1. Z Ustavu organicke chemie prirodovedecke fakulty
Masarykovy university v Brne.

(KETONES, preparation of,
1,4-diamino-2-butanone, from acrylonitrile)
(CYANIDES,
acrylonitrile, synthesis of 1,4-diamino-2-
butanone)

BORKOVEC, J. and Others

Aminocyclopentoxalines. V. p.525. Ceskoslovenska akademie ved.
Brnenska zakladna. PRACL. Brno. Vol. 27, no. 12, 1955.
Ceskoslovenska akademie ved. Brnenska zakladna. PRACL. Brno.

SOURCE: East European Accessions List, (EIAL), Library of Congress.
Vol. 5, no. 12, December 1956.

BORKOVEC, JOSEF

Czechoslovakia/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61564

Author: Michalsky, Jiri; Borkovec, Josef; Hadacek, Jaromir

Institution: None

Title: Aminoalkyl Quinoxalines. III. Synthesis of Nitriles of 2-phthalimidoalkylquinoxalinecarboxylic acid-(3)

Original

Periodical: Aminoalkylchinoxaliny. III. Synthesa nitrilu kyseliny 2-ftalimidookylchinoxalinkarbonovych-(3), Chem. listy, 1955, 49, No 9, 1379-1384; Czech

Abstract: There were synthesized nitriles of β -(p-dimethyl-aminophenylimino)- β -oxophthalimido-alkyl carboxylic acids $C_6H_4(CO)_2-NRCOC(CN) =$ N-p- $C_6H_4N(CH_3)_2$ (I) from the corresponding N-x-phthalimido-2-oxoalkyl-1-pyridiniumbromides/II (according to Kroehnke, Chem. Ber., 1947, 80, 298). As intermediates are formed nitrones $RCOCH = \dot{N}(O)-p-C_6H_4N(CH_3)_2$ (III) which is confirmed by isolation of nitrones in conducting the reaction at $\sim 20^\circ$. From I were prepared

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Czechoslovakia/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61564

Abstract: 2-phthalimidoalkyl-3-cyanoquinoxalines (IV) the derivatives of which have tuberculostatic activity. From 1-diazo-4-phthalimidobutanone-2 in CH_3OH in presence of Ag_2O and subsequent treatment with CH_2N_2 was prepared methyl ester of γ -phthalimidobutyric acid, yield 85%, MP $89-90^\circ$ (from CH_3OH), the saponification of which (ice, CH_3COOH - conc. HCl , 100° , 1 hour) gives the corresponding acid (V), yield 74%, MP $117-118^\circ$ (from water). From V and SOCl_2 (65° , 20 minutes) is obtained the acid chloride of V, the solution of which in absolute C_6H_6 is treated with an ether solution of CH_2N_2 at 0° to give 1-diazo-5-phthalimido-pentanone-2, yield 81%, MP 96° (from ether). The latter treated with 40% HBr in glacial CH_3COOH is converted to 1-brom-5-phthalimidopentanone-2 with 94% yield, MP 139° (from CH_3OH). 1-brom-x-phthalimidoalkanone-2 is mixed with excess pyridine at 60° , washed with C_6H_6 and gives II, hereafter are listed x (figure), alkyl, yield in %, MP $^\circ\text{C}$ (from absolute ether - alcohol, all substances crystallize with 1 mol of alcohol): 3, propyl (VI), 90, 213; 4, butyl (VII), 95, 228-229; 5, pentyl (VIII), 93, 223-224; 3, butyl (IX), 89, 123-125 (decomposes). From mixture of VI, p- $\text{ONC}_6\text{H}_4\text{N}(\text{CH}_3)_2$ and NaCN in 50% alcohol (50° , 10 minutes) is obtained

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Czechoslovakia/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61564

Abstract: I ($R = CH_2$), yield 56.5%, MP 283-284° (from benzene-alcohol); on conducting reaction at ~20° there has been isolated III ($R = C_6H_4(CO)_2NCH_2-$), MP 202-204° (from benzene-alcohol 5:2). Analogously were obtained (listing the starting material, reaction temperature in °C, duration of reaction in minutes, final product, yield %, MP °C): VII, 35-40, 30, I ($R = CH_2CH_2$), 68, 194-196 (from benzene-alcohol, 1:1); VIII, 0, 30, I ($R = (CH_2)_3$), 80, 197.5-198 (from benzene-alcohol, 1:1); IX, ~20, 15, I ($R = CH(CH_3)$), 37, 184-185 (from alcohol); II, ($x = 4$, alkyl = pentyl) (see Referat Zhur - Khimiya, 1955, 26228), ~20°, 10, I ($R = CH(CH_3)CH_2$), 60, 183-184 (from benzene or alcohol). To solution of I and o-phenylenediamine in glacial CH_3COOH at 100° added several drops of 37% HCl (on completion of reaction mixture becomes colorless) to get IV; listed hereafter R, yield of IV in % and MP °C: CH_2 , 74, 255 (twice from alcohol); CH_2CH_2 , 70, 204 (from alcohol); $(CH_2)_3$, 65, 180 (from alcohol); $CH(CH_3)$, 78, 183 (from alcohol); $CH(CH_3)CH_2$, 74, 196. Communication II, see Referat Zhur - Khimiya, 1955, 26229.

Card 3/3

BORKOVEC, J.

Czechoslovakia/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61565

Author: Borkovec, J., Michalsky, J., Podperova, A.

Institution: None

Title: Aminoalkyl Quinoxalines. IV. Synthesis of 2-phthalimidoalkyl-3-chloroquinoxalines

Original Periodical: Aminoalkylchinoxaliny. IV. Syntesa 2-ftalimidoalkyl-3-chlorochinoxalinu, Chem. listy, 1955, 49, No 9, 1405-1407; Czech

Abstract: Synthesized were 2-R-3-chloroquinoxalines (I). Mixture of 2 g nitrile of α -[p-dimethylamino-phenylimino]- β -oxo- γ -phthalimido-butyric acid (see preceding communication), 50 ml glacial CH_3COOH , 5 ml concentrated HCl , boiled for 7 minutes, added 600 mg o-phenylene-diamine, 5 ml glacial CH_3COOH and excess aqueous solution CH_3COOK , cooled, added water and there is obtained 2-(α -phthalimidoalkyl-3-hydroxyquinoxaline) (II), yield 83%, MP 315° (from alcohol-benzene). Analogously were obtained from nitriles

Card 1/2

Czechoslovakia/Organic Chemistry - Synthetic Organic Chemistry, E-2
 Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61565

Abstract: of α -[p-dimethylamino-phenylenimino]- α -oxo- γ - and δ -phthalimido-valeric, - δ - and ϵ -phthalimidocaproic acids 2-(α -phthalimidoethyl)-(III), 2-(β -phthalimidoethyl)-(IV), 2-(β -phthalimido-propyl)-(V) and 2-(γ -phthalimidopropyl)-3-hydroxyquinazoline (VI) yield in % and MP in °C (from alcohol) being respectively: 76, 307-308; 82, 286-288; 87, 225-226; 88.5, 235-236. 1.7 g of II boiled 1 hour with 10 ml POCl₃ to get I (R-phthalimido-methyl), yield 60%, MP 256-257° (from alcohol-benzene). Analogously from IV, V and VI were obtained I (R, yield in % and MP °C, being respectively): β -phthalimidoethyl, 68, 195° (from benzene); δ -phthalimidopropyl, 63.5, 152-153° (from alcohol); γ -phthalimidopropyl, 70, 158° (from alcohol). 400 mg III boiled 1 hour with 5 ml POCl₃ and 300 mg PCl₅, poured in water, yield of I (R = α -phthalimidoethyl) 76%, MP 155-156° (from alcohol).

Card 2/2

BORKOVEC, JOSEF

CZECHOSLOVAKIA/Organic Chemistry - Synthetic Organic Chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4420

Author : Borkovec Josef, Kuhr Jvo, Janik Borivoj, Michalski Jiri
Title : Aminoalkyl Quinoxalines, V. Preparation of 1,1-Dihalogen-
Phthalimido-Alkanone-2 and Phthalimido-Alkanone-2-Carbo-
xylic-1 Acids

Orig Pub : Prace Brnenske zaklad. CSAV, 1955, No 11, 525-534

Abstract : For the purpose of obtaining the starting materials for the synthesis of phthalimido-methylquinoxalines and pteridines there has been synthesized a series of 1,1-diiodo-(or dibromo)-phthalimidcalkanones-2 by the action of dihalogen-dioxane on the corresponding phthalimido-alkyldiazomethyl-ketones, while by hydrolysis of nitriles of alpha-(p-dimethylaminophenylimino)-beta-ketophthalimido-acids there were prepared phthalimido-alpha-ketoacids. Alpha-keto-beta-phthalimido-propionic acid (I) on condensation with o-phenylenediamine (II) gives 2-hydroxy-3-

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CZECHOSLOVAKIA/Organic Chemistry - Synthetic Organic Chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4420

-phthalimidomethylquinoxaline (III), and on reaction with 2,4,5-triamino-6-hydroxy-~~pyrimidine~~ (IV), the 2-amino-4,7-dihydroxy-6-phthalimido-methylpteridine (V). To a solution of 0.059 mole iodine in 150 ml dioxane (VI) are gradually added, at 70°, 0.061 mole 1-diazo-3-phthalimido-propanone-2 (VII), the mixture is boiled for 1 minute and there is obtained 1,1-diiodo-3-phthalimido-propanone-2, yield 97.4%, MP 180-183° (from benzene). In the same manner from 1-diazo-4-phthalimido-butanone-2 is obtained 1,1-diiodo-4-phthalimido-butanone-2, yield 97%, MP 148-149°, (from benzene); from 1-diazo-3-phthalimido-butanone-2, after driving off VI and treating the residue with water, there is obtained 1,1-diiodo-3-phthalimido-butanone-2, yield 98%, MP 146-147° (from alcohol benzene); analogously from 1-diazo-5-phthalimido-pentanone-2 is obtained 1,1-diiodo-5-phthalimido-pentanone-2, yield 98.9%, MP 141° (from benzene). To a mixture of 2

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CZECHOSLOVAKIA/Organic Chemistry - Synthetic Organic Chemistry

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4420

g VII, 20 ml CCl_4 and 1.4 g Br_2 , are added 2 ml VI, after 5 minutes VI is driven off, 30 ml of water are added and there is obtained 1,1-dibromo-3-phthalimido-propanone-2, yield 70%, MP 150° (from benzene). Mixture of 9 g nitrile of alpha-(p-dimethylaminophenylimino)-beta-keto-gamma-phthalimido-butyric acid, 60 ml 37% HCl and 40 ml water, is allowed to stand for 12 hours, is heated for 15 minutes and ether is used to extract I, yield 91%, monohydrate MP $183-183.5^\circ$ (from water). Mixture of 3 g bromide of N-(2-keto-3-phthalimidobutyl-1)-pyridinium, 15 ml alcohol, 1.4 g p-nitrosodimethylaniline, 0.9 g NaCN and 2 ml water, is stirred 15 minutes at 20° , diluted with 200 ml of water and cooled to 0° , after 15 minutes there is obtained the nitrile of alpha-(p-dimethylaminophenylimino)-beta-keto-gamma-phthalimidovaleric acid (VIII), yield 63.8%, MP 188° . Mixture of 5 g VIII, 30 ml 37% HCl and 20 ml water, allowed to stand for 12 hours at

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CZECHOSLOVAKIA/Organic Chemistry - Synthetic Organic Chemistry

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4420

20°, extracted with ether, the ether is removed, added 20 ml acidified water, and there is obtained alpha-keto-beta-phthalimidobutyric acid, yield 60.5%, MP 73-75° (from acidified water); 2,4-dinitrophenylhydrazone, MP 237-238° (from CH₃OH); In the same manner from nitrile of alpha-(p-dimethylphenylimino)-beta-keto-delta-phthalimidovaleric acid is obtained alpha-keto-gamma-phthalimidobutyric acid, yield 92.8%, MP 141-142° (from water); from nitrile of alpha-(p-dimethylaminophenylimino)-beta-keto-delta-phthalimidocaproic acid (50-60°, 1 hour) is obtained alpha-keto-gamma-phthalimidobutyric acid, yield 81.7%, MP 153° (from water); 2,4-dinitrophenylhydrazone, MP 221-222° (from CH₃OH); from nitrile of alpha-(p-dimethylaminophenylimino)-beta-keto-epsilon-phthalimidocaproic acid, is obtained (1 hour, 50-60°) alpha-keto-delta-phthalimidobutyric acid, yield 89%, MP 148° (from water). On condensation of I with II in boiling CH₃COOH is obtained

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CZECHOSLOVAKIA/Organic Chemistry - Synthetic Organic Chemistry

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4420

III with a yield of 100%, MP 305-307° (from alcohol-benzene). III was also obtained on boiling (2 minutes) the nitrile of alpha-(dimethylaminophenylimino)-beta-ketogamma-phthalimidobutyric acid, yield 82.6%. To a mixture of 1.4 g sulfate of IV, 1.9 g CH₃COOH and 50 ml ethylene glycol, are added at 100° 2.5 g I and the mixture is boiled for 10 minutes after which it is diluted with 20 ml water, the precipitate is washed twice with a boiling mixture of HCl (acid) and CH₃COCH, and V is thus obtained with a yield of 65%, together with 2-amino-4,6-dihydroxy-7-phthalimido-methylpteridine. All melting points are corrected.

Communication IV, see RZhKhim, 1956, 61565.

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BORKOVSKAYA, G.R.

SAVOST'YANOVA, S.I.; ZIATKIS, L.S.; ZOLOT'KO, Ye.A.; BORKOVSKAYA, G.R.

Result of therapeutic and pedagogic work in a children's home for
infants sequelae of organic lesions of the central nervous system.
Pediatrics 39 no.6:72-78 N-D '56. (MIRA 10:2)

1. Iz Oblastnogo doma rebenka No.7 Khar'kovskogo oblastdravotdela
(zav. D.F.Shevchenko, glavnyy vrach S.I.Savost'yanova)
(CENTRAL NERVOUS SYSTEM, diseases,
in inf. & child., ther. (Rus))

BORKOVSKAYA, L.V.

Activities of the Kharkov branch of the All-Union Society of Hygienists.
(MIRA 11:4)
Gig. & san. 23 no.3:90-91 Mr '58.
(HYGIENE
in Russia)

BORKOVSKAYA, L.V.

Activity of the Kharkov Province division of the All-Union Hygiene
Society. Gig.i san. 25 no.9:117-118 S '60. (MIRA 13:9)

1. Sekretar' pravleniya Khar'kovskogo oblastnogo otdeleniya Vsesoyuznogo
gigiyenicheskogo obshchestva.
(KHARKOV PROVINCE—PUBLIC HEALTH SOCIETIES)

BORKOVSKAYA, L.V.; GULYANSKAYA, Ye.A.; ZYKUNOVA, K.I.;
LITOVCHENKO, Ye.P.; PERK, M.G.; RASSOKHIN, V.V.;
kand. tekhn. nauk; TKACHENKO, A.I.; STANKOV, N.V.,
inzh., retsenzent; ALEKSEYEVSKIY, G.V., inzh., retsenzent;
PIONTEK, Ye.I., inzh., red.

[Album of assignments for executing assembly drawings] Al'-
bom zadaniy dlia vypolneniia sborochnykh chertezhei. [By]
L.V.Borkovskaia i dr. Moskva, Mashinostroenie, 1964. '72 p.
(MIRA 17:9)

M

COUNTRY :USSR
 CATEGORY :Cultivated Plants. Grains.
 ABS. JOUR. : RZBiol., No.21, 1958, No. 95933
 AUTHOR :Borkovskaya, V.A.
 INST. :All-Union Inst. of Plant Cultivation
 TITLE : Prospective Cultivation of Wintering Oats
 in the Northern Caucasus
 ORIG. PUB. : Byul. Vses. in-ta rasteniyevodstva, 1957,
 No. 3, 32-35
 ABSTRACT : Data are presented on the productivity of
 wintering oats for the last years at Maykop-
 skaya Experimental Station of the All-Union
 Plant Cultivation Institute. The wintering
 oats can be used for green feed (mowing can
 be performed up to spiking) with subsequent
 use of the grain from the same sowings for
 the second harvest. Oats varieties 4065
 and 7994 are best in winter hardiness and
 productivity, although they lack resistance
 to lodging. These varieties can be used in
 CARD: 1/2

Country :
CATEGORY :

M

ABS. JOUR. : RZBiol., No. 1958, No. 95933

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : the steppe portion of the foothills, where the plantings suffer loss from lodging, and in the foothill districts with sufficient and excess moisture to obtain two harvests (green stuff and grain). In the foothill districts where the oat productivity is reduced through strong lodging, the best effect is gotten from the non-lodging oat 9885 variety.--N.F. Kravtsova

CARD:

2/2

USSR/General Biology. Genetics. Plant Genetics.

D

Abs Jour: Ref Zhur-Diol., No 17, 1958, 76331.

Author : Dorkovskaya, V.A.

Inst :

Title : Hybridization of Cultured Lucerne with a Wild
Diploid Species.

Orig Pub: Tr. po prikl. botan. genet. i selektsii, 1957,
30, No 8, 143-153.

Abstract: Wild species of lucerne *Medicago cerulea* Less. and
M. quasifalcata Sinsk., having $2n = 16$, were cross-
bred with cultured lucerne *M. sativa* (Slavyanskaya
locality type) having $2n = 32$. The author indicates
that the use of free pollinization and of mixtures
of pollen increase the crossbreeding potentiality
of the species of lucerne mentioned. When diploid

Card : 1/2

BONKOVSKAYA, V.A.

Experiment in the transformation of spring cereals into wintering
forms [with summary in English]. Bot. zhur. 43 no.1:50-60 Ja '58.
(MIRA 11:2)

1. Vsesoyuznyy institut rasteniyevodstva, Leningrad.
(Grain)

SINSKAYA, Ye.N.; BORKOVSKAYA, V.A.

Method of analyzing plant populations. Biul. MOIP. Otd. biol. 65
no.1:77-89 Ja-F '60. (MIRA 13:7)
(BOTANICAL RESEARCH)

BORKOVSKAYA, V.N., inzh.; OSMAKOV, S.A., kand.tekhn.nauk

Speed of vibratory sinking of cylindrical bodies into the
ground. Gidr. stroi. 30 no.9:51-53 S !60. (MIRA 13:9)
(Piling (Civil engineering)) (Vibration)

BORKOVSKAYA, V.N.

AID P - 2345

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 9/30

Authors : Borkovskaya, V. N., Eng., and Pukhov, G. Ye., Doc. of
Tech. Sci., Prof. Taganrog

Title : Calculation of 3-phase circuits with an arbitrary number
of simultaneous short-circuits and phase rupture

Periodical : Elektrichestvo, 5, 40-44, My 1955

Abstract : The authors attempt to introduce some simplifications
into the calculations of complex unsymmetrical networks.
Theories presented by several Soviet scientists in publi-
cations enumerated at the end of the article assume with
 n points of asymmetry the setting up and solution of $6n$
equations. The authors reduce the number of equations to
 n and present the results of their calculation in 2 tables
of formulas. Two diagrams, 10 Soviet references (1-1933,
9-1946-1952).

Institution: Taganrog Institute of Radio Engineering

Submitted : J1 3, 1954

BORKOVSKAYA, V.YU.

Clinical aspects and therapy of acute intestinal obstruction
Fel'd. i akksh. no.5, 1952

BORKOVSKAYA, V.YU.

BORKOVSKAYA, V.YU.

Phthivazid in the treatment of actinomycosis. Probl.tub. no.1:
48-52 Ja-F '55. (MIRA 8:4)

1. Iz kafedry obshchey i gospiatal'noy khirurgii (zav. prof. A.N. Velikoretskiy) sanitarno-gigiyenicheskogo fakul'teta I Moskovskogo ordena Lenina meditsinskogo instituta.

(NICOTINIC ACID ISOMERS, therapeutic use,
isoniazid in actinomycosis)

(ACTINOMYCOSIS, therapy,
isoniazid)

BORKOVSKAYA, Yu. A.
BORKOVSKAYA, Yu. A.; YEFIMOVA, O. A.

Diagnostic value of I. I. U. Kokhanovskii's sign. Vop. neirokhir. 21
no. 6:36 N-D '57. (MIRA 11:2)

1. Kafedra nervnykh bolezney Kazanskogo gosudarstvennogo instituta
dlya usovershenstvovaniya vrachev imeni V. I. Lenina.

(FRONTAL LOBE, dis.

diag. value of Kokhanovskii's palpebral motor sign)

(EYELIDS, in various dis.

frontal lobe dis., diag. value of Kokhanovskii's
palpebral motor sign)

BORKOVSKAYA, Yu.A.

Method of implanting electrodes in the deep sections of a cat's brain with the aid of stereotaxic apparatus. Nauch. soob. Inst. fiziol. AN SSSR no.1:120-122 '59. (MIRA 14:10)

1. Laboratoriya nervnoy trofiki (zav. - A.V.Tonkikh) Instituta fiziologii imeni Pavlova AN SSSR.
(ELECTROPHYSIOLOGY)

BORKOVSKAYA, Yu. A. Cand Med Sci -- "Sleeplike states in certain ~~states~~
actions
~~effects~~ upon the interbrain." Len, 1961 (1st Len Med Inst im I. P. Pirogov).
(KL, 4-61, 207)

-370-

BORKOVSKAYA, Yu.A.; FADEYEVA, O.N.

Mechanism in developing sleep inhibition after the administration of
adrenaline. Fiziol. zhur. 47 no.7:806-814 J1 '61. (MIRA 15:1)

1. From the Laboratory of Tropic Innervation, I.P.Pavlov Institute
of Physiology, Leningrad.
(ADRENALINE) (SLEEP)

BORKOVSKAYA, Yu.A.; KLIMOV, P.K.; FADEYEVA, O.N.

Changes in cerebral circulation following administration of
adrenaline and pituitary hormones. Fiziol. zhur. 49 no.12:
1482-1488 D '63. (MIRA 17:12)

1. Laboratoriya fiziologii vegetativnoy nervnoy sistemy i
nervnoy trofiki Instituta fiziologii im. I.P. Pavlova AN
SSSR, Leningrad.

BORKOVSKAYA, Yu.A.; KLIMOV, P.K.; YAKOVLEV, N.V.

Methodology for the study of the cerebral circulation under
experimental conditions. Biul. eksp. biol. i med. 58 no. 7: 124-
125 J1 '64. (MIRA 18:2)

1. Kabinet rentgenofiziologii (zav. P.K. Klimov) Instituta fiziologii
imeni I.P. Pavlova (dir. - akademik V.N. Chernigovskiy) AN SSSR,
Leningrad. Submitted May 28, 1963.

BORKOVSKIY, B.

POLAND/Cultivated Plants - Medicinal, Essential Oils, Poisonous M-10

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 1809

Author : B. Borkovskiy

Inst : Not Given

Title : Present Problems in the Field of Medicinal Plants

Orig Pub : Acta polon. pharmac., 1956, 13, No 7, 535-542

Abstract : The introductory report by the section of medicinal plants of the Third Scientific Pharmaceutical Congress. The discovery of antibiotics has recently increased the search for phytoncides and other medicinal substances of plant origin. In Poland the chemical industry is less developed than in the western countries of Europe; therefore, more attention is paid to the natural substances of medicinal plants. A short summary of reports on the studies conducted in Poland during the last 2 years is presented.

Card : 1/1

BORKOVSKIY, B. A.

USSR/Electricity - Literature Education

Jun 53

"Discussion on a Textbook of Theoretical Electrical Engineering for Higher Schools," Prof V. B. Romanovskiy, Dr Tech Sci (Tomsk Electromech Inst of Rwy Transport Engrs), G. Ye. Pukhov, Dr Tech Sci, Engrs B. A. Borkovskiy and V. N. Sosunov (all from Tomsk Polytech Inst in Kirov)

Elektrichestvo, No 6, pp 68-70

Contains (a) editorial statement that this is start of discussion on creation of high-quality text on theoretical elec eng, (b) comment by Romanovskiy on book "Theoretical Basés of Electrical Engineering" ("Teoreticheskiye osnovy elektrotekhniki") by P. L. Kalantarov and L. R. Neyman, (c) comment by Voronov et al. on book "Fundamentals of Electrical Engineering" (Osnovy elektrotekhniki) by K. A. Krug.

268T56

BORKOVSKIY, B. A.

BORKOVSKIY, B. A.--"Toward the Design of Periodic Processes in Nonlinear
Electric Circuits with Rectifiers." Min Higher Education USSR, Tomsk
Order of Labor Red Banner Polytechnic Inst imeni S. M. Kirov, Tomsk, 1955
(Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No. 35, 1955

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S/144/60/000/011/002/008
EO31/E255

AUTHORS: Pukhov, G. Ye., Doctor of Technical Sciences, Professor
and Borkovskiy, B. A., Post-graduate Student

TITLE: On the Electrical Simulation of a System of Linear
Algebraic Equations with Arbitrary Coefficient Matrix

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Elektromekhanika, 1960, No. 11, pp. 36-37

TEXT: It is usually assumed (Ref. 1) that electrical analogues consisting of the elements R, L, and C can only be constructed for systems of linear algebraic equations with symmetric matrices of coefficients, while systems of equations with unsymmetric matrices can be simulated by electrical circuits only if transformers and amplifiers are used (Refs. 1, 2, 3). The present article aims to extend the domain of usefulness of models for symmetric algebraic systems constructed from the elements R, L and C, and to show how to apply them to the solution of systems of algebraic equations with arbitrary matrices. In order to solve the system $AX = F$ with arbitrary matrix A on an electrical model, an electrical analogy of the following algebraic

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E031/E255

On the Electrical Simulation of a System of Linear Algebraic Equations with Arbitrary Coefficient Matrix

system:

$$\begin{bmatrix} 0 & A \\ A^* & B \end{bmatrix} \cdot \begin{bmatrix} Z \\ X \end{bmatrix} = \begin{bmatrix} F \\ 0 \end{bmatrix}$$

must be constructed. X and F are the vectors of the unknowns and right hand sides of the system (1). A* is the transpose of A. B is an arbitrary symmetric matrix and Z is a vector of spurious (undetermined) unknowns. This is always possible since the matrix of the system (2) is symmetric and no other restrictions are imposed on systems simulated by electrical circuits containing R, L and C elements, (Ref. 1). One of the possible methods of constructing an electrical circuit simulating the system (2) is clear from Fig. 1. Fig. 1 represents an electrical circuit described by the following system of 2n equations:

$$(Y_{10} + Y_{11} + Y_{12} + \dots + Y_{1k} + \dots + Y_{1n}) \ddot{U}_1 + Y_{11} \ddot{U}_1 + Y_{12} \ddot{U}_2 + \dots + Y_{1k} \ddot{U}_k + \dots + Y_{1n} \ddot{U}_n = \dot{I}_1,$$

.....

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On the Electrical Simulation of a System of Linear Algebraic Equations with Arbitrary Coefficient Matrix

$$(Y_{n0} + Y_{n1} + Y_{n2} + \dots + Y_{nk} + \dots + Y_{nn}) \ddot{U}_n + Y_{n1} \ddot{U}_1 + Y_{n2} \ddot{U}_2 + \dots + Y_{nk} \ddot{U}_k + \dots + Y_{nn} \ddot{U}_n = \ddot{I}_n,$$

$$Y_{11} \ddot{U}_1 + Y_{12} \ddot{U}_2 + Y_{13} \ddot{U}_3 + \dots + Y_{1k} \ddot{U}_k + \dots + Y_{1n} \ddot{U}_n + (Y_{11} + Y_{12} + \dots + Y_{1n}) \ddot{U}_1 = 0,$$

$$Y_{n1} \ddot{U}_1 + Y_{n2} \ddot{U}_2 + Y_{n3} \ddot{U}_3 + \dots + Y_{nk} \ddot{U}_k + \dots + Y_{nn} \ddot{U}_n + (Y_{n1} + Y_{n2} + \dots + Y_{nn}) \ddot{U}_n = 0. \quad (3)$$

If the equations $Y_{i0} + Y_{i1} + Y_{i2} + \dots + Y_{ik} + \dots + Y_{in} = 0$ ($i = 1, 2, \dots, n$) (4) are satisfied, then the system (3) can be written shortly as

$$\begin{bmatrix} 0 & Y \\ Y^* & Y \end{bmatrix} \cdot \begin{bmatrix} U \\ \ddot{U} \end{bmatrix} = \begin{bmatrix} I \\ 0 \end{bmatrix} \quad (5)$$

By comparing equations (2) and (5) it follows that the circuit (Fig. 1) simulates equations (2). The elements a_{ik} of the matrix A are simulated by the conductivities Y_{ik} , the components F_i of

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EO31/E255

On the Electrical Simulation of a System of Linear Algebraic Equations with Arbitrary Coefficient Matrix

the vector of the right hand sides F are simulated by the currents I_i , and the components x_k of the vector of unknowns X are represented by the voltages U_k . The conductivities of capacitors simulate the positive elements of A , and the conductivities of inductors simulate the negative elements of A . The conductivities Y_{ij} are chosen so that the Equations (4) are satisfied, i.e. so that the particular conductivities of the nodes $1', 2', \dots, i', \dots, N'$ at which the current I_i representing the right hand side of the equations are introduced are zero. By measuring the components of the vector \vec{U} in amplitude and phase the values of the unknown vector X in Equations (1) may be obtained in some scale. The circuit (Fig. 1) requires $n^2 + n$ L and C elements to simulate a system of the n -th order with an arbitrary matrix. There are 3 Soviet references.

ASSOCIATION: Kafedra teoreticheskikh osnov elektrotekhniki,
Kievskiy institut grazhdanskogo flota
(Department of Basic Theory of Electrical Engineering,
Kiev Institute of the Civil Air Fleet)

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EO31/E255

On the Electrical Simulation of a System of Linear Algebraic Equations with Arbitrary Coefficient Matrix

Fig. 1

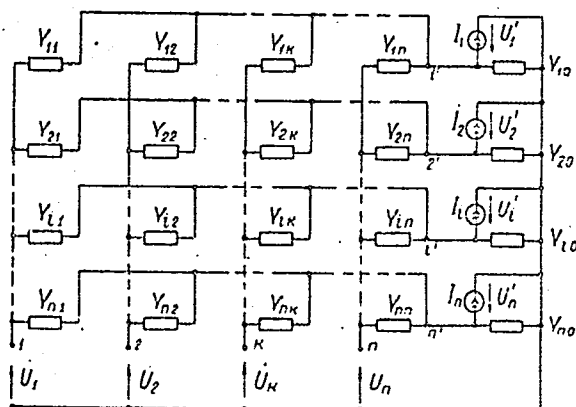


Рис. 1.

Card 5/5

Borkovski, B.A.

S/021/63/000/003/009/022
D405/D301

AUTHORS: Pukhov, H. Ye., Corresponding Member of the AS UkrRSR,
Borkovs'kyy, B. A. and Stepanov, A. Ye.

TITLE: Simulation method for continuous operators

PERIODICAL: Akademiya nauk UkrRSR. Dopovidi. no. 3, 1963, 325-331

TEXT: A quasi-analog simulation method is proposed which enables one to solve equations without prior analytic transformations. The unknowns are simulated by the output voltages of amplifiers. An operator which corresponds to the relationship

$$\sum_{i=1}^n a_i x_i + \sum_{i=1}^n b_i \frac{dx_i}{dt} + \sum_{i=1}^n c_i f_i(x_1, \dots, x_n) = 0 \quad (1)$$

is simulated by several elements; in very simple cases by triple poles. The coefficients A_i and c_i are simulated by ohmic conducti-
Card 1/3

Simulation method for ...

S/021/63/000/003/009/022
D405/D301

vities, the coefficients b_i by capacitances, and the unknowns x_i by voltages. Nonlinear and transcendental functions are simulated by ordinary (irreversible) functional elements. The design and the operating principle of a model operator are illustrated by an example involving the solution of an algebraic equation. The method can be used for design of various linear and nonlinear operators which enable one to obtain any unknown variable as a function of other unknowns. The following very simple types of operator circuits are shown schematically: a) A linear algebraic converter; b) an integrator-differentiator; c) a device for multiplication division; d) an algebraic-functional converter; and e) a nonlinear differential converter. The method can be used for simulation of one-dimensional as well as multi-dimensional operators. Thus, e.g. it is possible to simulate the system of linear algebraic equations

$$AX + F = 0$$

with an arbitrary matrix A and a non-vanishing determinant. The model of this system of equations is absolutely stable. Only opera-

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Simulation method for ...

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D405/D301

tors with positive coefficients were considered; but this does not involve any loss of generality, since the analysis can be readily extended to any operator with sign-alternating coefficients. The method was experimentally checked on one-dimensional algebraic, linear and nonlinear differential operators, and on systems of linear algebraic equations. The results were satisfactory. The method can be used for simulating linear and nonlinear operators, of linear algebraic equations, in the synthesis of automatic control systems, etc.

ASSOCIATION: Instytut kibernetiky AN URSR (Institute of Cybernetics of the AS UkrRSR)

SUBMITTED: August 18, 1962

Card 3/3

BORKOVSKIY, B.A.

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

Comprehensive method for calculating transients in electric
circuits with distributed parameters containing concentrated
nonlinear elements. Mat. mod. i elek. tsepi no.1:201-207 '63.
(MIRA 16:11)

PUKHOV, G. Ye.; BORKOVSKIY, B. A.

"Circuit analysis over terminal internal."

report submitted for Intl Conf on Microwaves Circuit Theory & Information Theory,
Tokyo, 7-11 Sep 64.

Inst of Cybernetics, AS UkSSR.

L 16360-65 ESD(dp)/SSD/AFWL/ASD(a)-5/AFMD(p)/AFETR/AFTC(b)

ACCESSION NR: AT4045640

S/2943/64/000/002/0066/0085 B+1

AUTHOR: Pukhov, G. Ye. (Corresponding member AN UkrSSR); Borkovskiy, B. A.

TITLE: Method of construction of reversible and quasi-reversible electronic models

SOURCE: Seminar po metodam matematicheskogo modelirovaniya i teorii elektricheskikh tsepey. Matematicheskoye modelirovaniye i elektricheskiye tsepi (Mathematical modeling and electrical circuits); trudy* seminaru, no. 2, Kiev, Izd-vo Naukova dumka, 1964, 66-85

TOPIC TAGS: electronic model, reversible electronic model, automation, computer

ABSTRACT: The usual electronic modeling arrangements are irreversible, that is, the poles of these models are differentiated as input and output. If, for example, in the model of the equation $\frac{d^2x}{dt^2} + x = f(t)$, the input pole is fed the voltage which corresponds to the function $f(t)$, the voltage $x(t)$ will be obtained at the output. It is not possible to obtain the voltage $f(t)$ at the first pole by feeding

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ACCESSION NR: AT4045640

the second pole with $x(t)$, because of the irreversibility. Thus, in these models, the transformation of the information flux can go only in one direction. The present paper describes methods for construction of models in which the information can be transformed in any direction. In these reversible and quasireversible models, the external poles are equivalent. This can be accomplished in reversible models without commutations, in the quasireversible ones it is achieved with simple switching arrangements. Orig. art. has: 12 figures and 37 equations.

ASSOCIATION: None

SUBMITTED: 19Jan62

ENCL: 00

SUB CODE: DP, EC

NO REF SOV: 011

OTHER: 001

Cord 2/2

L 26752-56 EWT(1)/EWA(h) GW

ACC NR: AP6009538

(A,N)

SOURCE CODE: UR/0413/66/000/005/0074/0074

AUTHORS: Sorokhtin, O. G.; Borkovskiy, G. M.; Tsukernik, V. B.; Neymark, G. S.;
Dolinskiy, Yu. D.

37
B

ORG: none

TITLE: Multichannel seismic station^h with intermediate digital magnetic recording.
Class 42, No. 179482 /announced by All-Union Scientific Research Institute of
Geophysical Exploration Methods (Vsesoyuznyy nauchno-issledovatel'skiy institut
geofizicheskikh metodov razvedki)/

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 5, 1966, 74

TOPIC TAGS: seismologic station, computer application

ABSTRACT: This Author Certificate presents a multichannel seismic station with intermediate digital magnetic recording. The station contains seismic detectors, amplifiers, channel commutators, level setting devices, an analog to digital code converter, and a magnetic recorder. To provide for possible processing of the information on digital and analog computers, a digital code to analog converter, a channel distributor, and a device for selection and recording of the analog information are connected in series to the output of the reproduction amplifier of the magnetic recorder (see Fig. 1). To broaden the dynamic range of the received

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UDC: 550.340.84

L 26792-66

ACC NR: AP6009538

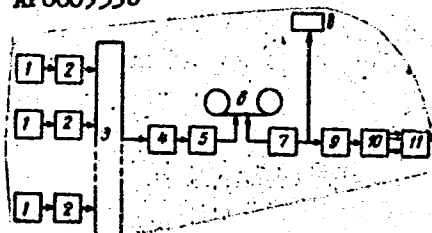


Fig. 1. 1 - seismic detectors; 2 - pre-amplifiers; 3 - channel commutator; 4 - basic amplifier; 5 - direct digital converter; 6 - magnetic recorder; 7 - reproduction amplifier; 8 - digital computer; 9 - digital to analog converter; 10 - channel distributor; 11 - recorder.

signals, a basic amplifier is connected between the channel commutator and the direct digital converter. Orig. art. has: 1 diagram.

SUB CODE: 08, 09/ SUBM DATE: 30Dec63

Cord 2/2dda

ACC NR: AT6032743

SOURCE CODE: UR/0000/66/000/000/0139/0147

AUTHOR: Borkovskiy, G. M.; Karus, Ye. V. (Candidate of physico-mathematical sciences)

ORG: none

TITLE: Geoacoustic method of investigating the mechanical properties and natural mode of occurrence of rocks

SOURCE: AN SSSR. Institut fiziki Zemli. Geoakustika; ispol'zovaniye zvuka i ul'trazvuka v seysmologii, seysmorazvedke i gornom dele (Geoacoustics; the use of sound and ultrasound in seismology, seismic prospecting, and mining). Moscow, Izd-vo Nauka, 1966, 139-147

TOPIC TAGS: geoacoustics, ~~rock mechanics~~, seismic wave propagation, *petrology*, *mechanical property*, *acoustic equipment*, *geologic instrument*, *ultrasonic equipment*

ABSTRACT: A new portable apparatus, characterized by high selectivity and effective high sensitivity has been developed for use in the geoacoustic method of stationary oscillations. Using this apparatus, seismo-acoustic observations have been conducted for the purpose of obtaining systems of amplitude curves, phase travel time curves, and the frequency characteristics of wave transmission. Oscillations were generated successively at three fixed points, while measurements were made at one point. Observations conducted in different regions on the surface and in shafts made it possible to obtain new data on absorption and velocity of seismic-waves and to study the dependence of these parameters on frequencies over a broad frequency

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ACC NR: AT6032743

range. Observations made in mines showed an insignificant normal dispersion of phase velocities and an anomalous dispersion on the day surface. It was established that the absorption coefficient of stationary elastic oscillations varies linearly with an increase of frequencies. Orig. art. has: 5 figures.

SUB CODE: 0820/ SUBM DATE: 28Mar66/ ORIG REF: 006/

Card 2/2

BORKOVSKIY, M.A.

UKAP-TsIES-3 machine for covering surface siles. Sakh.prom.
30 no.3:74 Nr '56. (MLRA 9:7)
(Earthmoving machinery)

BORKOVSKIY, M.A.

Introducing modern equipment in beet-sugar plants. Sakh. prom. 31 no.4:
5-8 Apr '57. (MIRA 10:6)

1. Ministerstvo promyshlennosti i prodovol'stvennykh tovarov SSSR.
(Sugar industry--Equipment and supplies)

BORKOVSKIY, M.A.

BORKOVSKIY, M.A.

Selecting an efficient type of diffuser. Sakh. prom. 32 no.1:14-18
Ja '58. (MIRA 11:2)

(Sugar machinery) (Diffusers)

BORKOVSKIY, M.A.

Automatic regulation of a multiple-unit evaporator assembly
(from "Zeitschrift für die Zuckerindustrie," no.1, 1960). Sakh.
prom. 34 no.6:73 Je '60. (MIRA 13:7)
(Sugar manufacture--Equipment and supplies)

BORKOVSKIY, M.A.

"Funda" filters in the sugar industry (from "Zucker," No.14,
1961). Sakh. prom. 35 no.12:61-62 D '61. (MIRA 15:1)
(Filters and filtration)
(Sugar manufacture)

BORKOVSKIY, M.A.

Use of radioactive isotopes in agriculture and industry (from
"Zeitschrift fuer die Zuckerindustrie," no.6, 1962). Sakh.prom.
37 no.2:67(147)-68(148) F '63. (MIRA 16:5)
(Radioisotopes--Industrial applications)

BORKOVSKIY, M.A.; IVANOV, P.Ya., spets. red.

[Modern centrifuges for the sugar industry] Sovremennye
tsentrifugi sakharnoi promyshlennosti. Moskva, TSentr.
in-t nauchno-tekhn. informatsii pishchevoi promyshl.,
1963. 61 p. (MIRA 17:10)

BORKOVSKIY, M.A.; VOSTOKOV, A.I.; ZHVIRKO, I.S.; LEPESHKIN, I.P.;
MEL'NIK, M.K.; MITROFANOV, V.P.; RODKEVICH, A.V.; SILIN,
P.I. [deceased]; YAKUBOVSKIY, V.V.; YEREMENKO, B.A.,
retsenzent; MAR'YANCHIK, V.L., retsenzent; MAKSIMOV, A.I.,
retsenzent; PRITYKINA, L.A., red.

[Handbook for the sugar manufacturer] Spravochnik sakhar-
nika. Moskva, Pishchevaia promyshlennost'. Pt.2. 1965.
778 p. (MIRA 18:9)

BORKOVSKIY, N.S. [Borkovs'kyi, N.S.], inzh.

Experience in adjusting mounted SKGN-6 planters. Mekh.sil'.
hosp. 11 no.3:10 Mr '60. (MIRA 13:6)

1. Kamenets-Podol'skiy sel'skokhozyaystvennyy institut.
(Planters(Agricultural machinery))

BORKOVSKIY, N.S. [Borkovs'kiy, N.S.]

How we adjust the SKGK-6V planter. Mekh. sil'. hosp. 12
no. 3:7 Mr '61. (MIRA 14:4)

1. Kam"yanets'-Podil's'kiy sil's'kogospodars'kiy institut.
(Planters (Agricultural machinery))

124-58-9-10322

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 132 (USSR)

AUTHORS: Borkovskiy, R. I., Mal'tsev, B. I.

TITLE: Analog Simulation of the Vibration of Beam Structures (Modelirovaniye kolebaniy sterzhnevyykh konstruktsiy)

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1957, Nr 12, pp 100-102

ABSTRACT: Bibliographic entry

1. Beams--Vibrations

Card 1/1

BORKOVSKIY, R. I., KATS, A. M., PROKOPOV, V. K.

"Theory of Linear $\sqrt{\text{Frequency}}$ -Filtering Accelerometers,"

(Dynamics and Strength of Machines; Collection of Articles) Moscow, Mashgiz,
1958. (Series: Its: Leningrad Polytech Inst. Trudy, No. 192) 234 p.

L 27235-65 ENT(d)/EPF(n)-2/T/ENP(1) Po-h/Pq-h/Pg-h/Pu-h/Pk-h/Pl-h IJP(c)

WW/GS/BC

ACCESSION NR: AT5003906

S/0000/64/000/000/0077/0085

AUTHORS: Borkovskiy, V. A.; Vasil'yev, V. V.; Tokarev, O. N.

TITLE: Some methods of simulation of linear programming problems

SOURCE: Vsesoyuznaya konferentsiya-seminar po teorii i metodam matematicheskogo modelirovaniya. 3d, 1962. Vychislitel'naya tekhnika v upravlenii (Computer technology in control engineering); sbornik trudov konferentsii. Moscow, Izd-vo Nauka, 1964, 77-85

TOPIC TAGS: linear programming, optimum control, model theory

ABSTRACT: Three different methods are considered for modeling linear-programming problems. The methods are based on the use of reversible and quasi-reversible models. The methods are: 1. Realization of a simplex method with the aid of a reversible model of systems of algebraic equations. 2. Solution of linear-programming problems with the aid of a quasireversible linear converter. 3. Direct

Cord

1/3